

# Memorandum

**To:** CTEC  
**From:** Steve Ackerlund, Bill MacGregor  
**Copy:** Ian Magruder, Biomonitoring Working Group Participants (Nikia Greene, Daryl Reed, Karen Sullivan, Eric Hassler, Laura Williamson, Charles Partridge, Rosalind Schoof, Julia Crane, Christina Perkins, Josh Bryson, Matthew Ferguson, Cynthia Van Landingham, Michelle Watters)  
**Date:** August 2, 2018  
**Subject:** Summary of the June 24 Special CTEC Meeting re: Public Engagement in the Biomonitoring-Health Study

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## Attendees

The meeting was well represented by CTEC, members of the public, the media, and the Study Work Group Members. See the attached sign-in sheet.

## Meeting Summary

The meeting lasted 2.2 hours. In addition to the agenda, attendees were provided two handouts (see attachments):

1. BPSOU Residential Metals Abatement Program Periodic Evaluation of Biomonitoring Approaches: provides a summary of proposed studies as conceived at that point in time. Meeting input was discussed at the Wednesday Working Group meeting that will result in plan revisions, which remains work-in-progress.
2. Working Group Meeting – July 25, 2018 Agenda: provided to allow informed decisions on attendance at the next day's Working Group meeting by current meeting attendees.

To help frame and focus the meeting on attendee needs, about 30 minutes was needed for each attendee to express the interest that brought them to the meeting. Working Group members presented their affiliation, credentials, and anticipated role in the studies. Several members of the public indicated a desire to be informed. Major expressed concerns included:

- Eileen Greb: Public health in Butte seems to have a legacy of diseases that seem to date back to exposures received during active mining. Surveys of public health should collect information on longevity in Butte and prior mining related exposure.
- John Ray: The work on lead is fine, but what about exposure to arsenic, cadmium and mercury? The assessments based on cancer registry is fine, but what of other wide ranging possible health impacts like MS, etc? What's new about this study and how

might it be broadened beyond the lead focus? Ensuring effective service to the Environmental Justice community remains a concern.

- Anna Chacko: She has observed an abnormally high incidence of Polycystic Ovarian diseases and elevated hormone levels within the Butte population. She hypothesizes that it may be related to miner's exposures and passed down to descendants and/or ongoing copper exposure.
- Karen Sullivan: As the BSB Health Officer, Karen described the past and future planned public health assessments that provide good information on major concerns, with non-superfund issues such as suicide rates recognized as the most prevalent and severe.

The next portion of the meeting provided information from working group members on current proposed directions.

Nikia Greene, EPA Remedial Project Manager, stated that this was the 2<sup>nd</sup> study in a series of studies to be conducted every five years for 30 years as described in Section 4 of the Residential Metals Abatement Program. The first study involved a thorough assessment of a large amount of blood-lead data, not previously evaluated, to assess RMAP effectiveness. Several program improvements were recommended. DPHHS also provided an epidemiological assessment utilizing the state's cancer registry to assess cancers known to be associated with metals exposure. Proposed changes to the RMAP will use the "biomonitoring" term rather than the more general "health study" term to reflect the focus of the work and EPA regulatory authority on this matter. He went on to say that he is frequently approached by the public about wide-ranging health concerns for which he does not always have satisfying answers. He looks forward to the work that Bill MacGregor and Raja Nagisetty will lead and what that might do to ultimately get satisfying answers. He expressed appreciation for developing this collaborative effort to work on these concerns.

Rosalind Schoof, Toxicologist contracted by ARCO, presented key conclusions from the past blood-lead biomonitoring study and currently proposed new actions. Key achievements and outcomes of the first study include:

- Converted a large amount of data in paper files into electronic databases so that it can be readily assessed.
- Geometric mean blood-lead levels dropped in Butte over the study period of 2003-2010. When the data is statistically corrected for confounding factors in a way that permits comparison to national trends in blood-lead concentration, the rate of decrease in Butte is higher than the national average. This correlation suggests, but is not proof, that the RMAP program is reducing exposure to lead. Since other metals tend to be elevated where lead is elevated, these findings suggest that exposure to historic mining related metals in general is reducing.
- Blood-lead levels in uptown areas of Butte remain elevated over the Flats, suggesting the need for ongoing remedial action under the RMAP program.

Blood-lead data is now available for the period 2012-2017, in electronic form. Research questions are still being formulated. The working group is to be presented the new data at the July 25 Working Group meeting. One thought is to assess exposure sources for the small proportion of results over the Center for Disease Control reference concentration of 5 ug/dL. While this study will likely be less involved and focused than before, it is still expected to follow the 4-step collaborative process for enabling stakeholder involvement used in the first study:

1. Agree on the data set to be used.
2. Agree on the study questions and assessment methods.
3. Deliberate on the assessment results to formulate interpretations and conclusions.
4. Review and comment on the draft report.

Laura Williamson, DPHHS, summarized findings from the past epidemiological study and current proposed new studies. The central cancer tumor registry, which has data since 1985, was used to assess if cancer incidence (new cancers each year) and mortality (deaths each year) for types of cancers potentially derived from excess metals exposure are significantly different than Montana and the U.S. No significant differences were observed for urinary bladder, kidney, liver, lung, prostate, and skin cancers. Several years of new data will permit another look, but importantly, the cancer registry data is now geocoded to enable assessment by census tracts, not just by county. This will permit a closer examination of areas within Butte. The state is also now tracking hospital discharge and emergency room visits, and there are health behavior surveys. This new information opens up possibilities for assessing a broader range of questions.

Bill MacGregor, CTEC, described the recently awarded INBRE grant to support an assessment of community health concerns. The study is inclusive of possible Superfund and non-Superfund causes of adverse health outcomes. One key objective is to study the gap between all that's been done to clean up the soil, drinking water, etc., and the ongoing perception that "you can't drink the water" and that the Butte environment is generally not healthy. The study will also seek to inform the currently proposed epidemiological work as well as other possible work. Additional research funding can be pursued as deemed necessary from INBRE and other sources.

Considerable discussion followed. Some of the more involved or perhaps relevant topics were:

- Community concerns captured above were reiterate and expanded upon.
- Clarification was sought on where additional funding might be found to support health research on a broader range of topics than is possible from Superfund project funding.
- The basis for lead as a key driver for cleanup was discussed.
- Eric Hassler, the RMAP Program Manager, stated that only a few yard cleanups have been conducted due to arsenic, and only 4 or 5 yard cleanups have been conducted to address mercury as the risk driver.

- Karen Sullivan, BSB's Health Officer, stated that the Affordable Care Act (ACA) and Medicaid revisions has led to improved data collection because more of the at-risk population is now provided improved access to care.
- Rosalind Schoof, Toxicologist for ARCO, addressed questions on bias in the blood-lead data by explaining that heavy reliance on the WIC program would be expected to provide a high bias on the true community average blood-lead concentration. When comparing Butte to Montana and national blood-lead levels, the data was corrected for major cofactors: house age, socioeconomic level and race.
- Clarification regarding the two major types of proposed studies was discussed:
  - Biomonitoring: to reassess the most recently available blood-lead data.
  - Epidemiology: to assess a broader range of health outcomes, responding to expressed concerns from the community as permissible by the available data and personnel resources. The scope of this study, for the 2<sup>nd</sup> five-year study or possibly future studies, may be informed by Bill's INBRE funded risk perception research.

The final portion of the meeting sought input on engagement interests. In response to a question from John Ray, Nikia Greene explained that the EPA is not required to advertise or provide for public attendance at a working group meeting. That said, meeting attendees were invited to attend the July 25 Working Group meeting. Anna Chacko expressed interest, but ultimately had work conflicts. David Hutchins expressed interest prior to the meeting, but was on vacation. Steve Ackerlund, consultant to CTEC, stated that he would be attending the Working Group meetings and then providing summaries that would be distributed to CTEC members, the media, and the general public through CTEC's normal channels. Minimally, the 4-step process described above and used in the first health study will be adapted to current needs. As progress is made to identify the research questions and methodologies, a more detailed process is expected to emerge for achieving meaningful public involvement.

It seems an excellent start to us. Thanks to those who participated! Stay tuned!!!

**Attachments:**

- Meeting Sign-in Sheets
- BPSOU Residential Metals Abatement Program Periodic Evaluation of Biomonitoring Approaches
- Working Group Meeting – July 25, 2018 Agenda